

ACVR Diagnostic Imaging Residency Training Program Application

This application is required for institutions desiring ACVR accreditation of a new residency training program and for institutions requesting re-accreditation of an existing program.

Before beginning the application process, all applicants should review the most recent version of the [ACVR Residency Program Essential Training Standards and Requirements](#) (RPE) document (accessed from the Essentials Homepage) in detail. Use the RPE as a reference when completing the application form, as the contents you provide herein will be evaluated by the Residency Standards and Evaluation Committee (RSEC) against the published RPE standards. This application form follows the headings of the RPE. All terms used in this application have same definitions as those in the RPE, and no information provided in the application form itself will supersede that published in the RPE. During the application review process, the Chair or Assistant Chair of the RSEC may contact the applicant for additional information or clarification.

**Note: If you wish to save your submission and complete it later, click the save button located at the bottom of the pages. You will be emailed a link to complete your form at a later date.*

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Program Summary

The Residency Director of the program is expected to be the primary applicant and contact person for this application. The Residency Director must be located at the primary training institution.

Institution Name	Texas A&M University
Residency Program Director Name	Lindsey Gilmour
Residency Program Director Email	lgilmour@cvm.tamu.edu

Program Type

What type of residency program is being requested?

Traditional Residency Program

If approved, what is the proposed start date of this residency program?

Friday, July 15, 2022

Objectives

Succinctly state the objectives of the training program.

The diagnostic imaging residency is a three-year program designed to prepare the individual for successful completion of the American College of Veterinary Radiology (ACVR) qualifying and certifying exams and for competent entry level skills as a radiologist in any field including academia, private practice, or teleradiology. This program is designed to meet or exceed all specifications mandated for training by the ACVR.

Training Period

What is the total length of the training program? 36

What is the anticipated length of supervised clinical training a resident will experience during this program? 30

Will the resident(s) in this program be eligible to take the ACVR Preliminary Exam in September of their third year? Yes

What are the responsibilities of the resident(s) during non-clinical portions of the program?

About six months of the program are designated for research, teaching, studying, and vacation.

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Direction and Supervision

When calculating time commitment in this section, you may consider a 100% (full time) duty schedule to consist of 48 weeks per year with 8 hours per day or 40 hours per week.

Residency Director

Please review the Residency Director requirements and responsibilities in the [ACVR Residency Program Essential Training Standards and Requirements](#) (RPE) document. Note that the Residency Director will be required to provide at least 24 weeks of clinical duty per year in primary support of residents in this program and to meet all other qualifications of a Supervising Diplomate.

Is the applicant Residency Director for this program prepared to meet these requirements? Yes

What percentage of the Residency Director's time is committed to clinical service at the primary training institution? 60

How many weeks per year will the Residency Director be on clinical service and teaching residents at the primary training institution? 29

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Additional Training Diplomates

Please review the definitions and responsibilities of [Supervising Diplomate and Supporting Diplomate](#) in the RPE document. Note that Supervising Diplomates will be required to provide at least 10 weeks of clinical duty in primary support of residents in this program, and are expected to participate in all facets of residency training. Supporting Diplomates aid in residency training, but provide support that is limited, as by modality (e.g. only works in ultrasound), time commitment (e.g. clinical duty < 10 weeks per year), or other constraints that prevent them from qualifying as a Supervising Diplomate.

Provide a copy of affiliation agreements with any diplomates that are located at an external institution

(see Affiliation Agreement item at the end of this section).

Excluding the Residency Director, please list all training diplomates who will act as Supervising Diplomates of this residency program. Indicate the approximate number of hours per year each supervisor will be scheduled on clinical duty with primary support of residents and, if applicable, any specific areas of instructional responsibility (e.g. trains mostly in small animal, trains mostly in MRI, etc). If a 'Supervising Diplomate' position will be comprised of multiple radiologists, please list the cohort as a single entity or institution for this question (e.g. "teleradiologists" or private institution name)

Name: Christine Gremillion

Hours/Year: ~1190

Specific Areas and/or Limitations of Instructional Responsibility: no limitations

Institution: Texas A&M University

Name: Jay Griffin

Hours/Year: ~675

Specific Areas and/or Limitations of Instructional Responsibility: no limitations

Institution: Texas A&M University

Name: Andra Voges

Hours/Year: ~675

Specific Areas and/or Limitations of Instructional Responsibility: small animal only

Institution: Texas A&M University

Name: Lauren Russell

Hours/Year: ~400

Specific Areas and/or Limitations of Instructional Responsibility: no limitations

Institution: Texas A&M University

In addition to ACVR/ECVDI Diplomates, the program must arrange for the resident(s) to have direct access to specialists in other areas. Please identify one member in each of the specialty colleges listed below that has agreed to support this program through clinical activity that allows regular interactions between the specialist and the diagnostic imaging residents (e.g. discussion of diagnostic work up, imaging findings, or patient outcomes, and/or participation in interdisciplinary rounds, etc).

Indicate whether the specialist is located on-site at the primary institution at an external institution. Provide a copy of affiliation agreements with any non-ACVR/ECVDI diplomates that are located at an external institution (see Affiliation Agreement section at the end of this application). Upon completion of this application, the below individuals will receive an email requesting acknowledgement of their support of your residency program.

ACVIM Member Name	Audrey Cook
ACVIM Member Institution	Texas A&M University
ACVIM Member Email	akcook@cvm.tamu.edu
ACVS Member Name	Kelley Thieman
ACVS Member Institution	Texas A&M University
ACVS Member Email	kthieman@cvm.tamu.edu
ACVP Member Name	Mark Johnson
ACVP Member Institution	Texas A&M University
ACVP Member Email	mjohnson@cvm.tamu.edu

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Resident:Supervising Diplomate Ratio

The number of residents in the program cannot exceed twice the number of Supervising Diplomates **on-site**. Remote Supervising Diplomates will not count when calculating the maximum residents allowed in a given program.

What is the maximum number of imaging interns you will have enrolled in this training program at any given time? 0

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Facilities

Review the Facility Requirements listed in the RPE document. Note also that residents should have opportunities to be involved with image acquisition and protocol set-up.

Does this residency training program provide on-site access to modern equipment for the following modalities?

Digital or Computed Radiography	<input checked="" type="checkbox"/> Yes
Fluoroscopy	<input checked="" type="checkbox"/> Yes
Ultrasound with Doppler Capability	<input checked="" type="checkbox"/> Yes

MRI

Yes

Fan-beam CT

Yes

Nuclear scintigraphy

Yes

Briefly describe how this program meets the facility requirements, including the specific type of CT and MRI units available. Explain how your program will train residents in modalities for which equipment is not located on site, providing affiliation agreements if applicable. (see Affiliation Agreement item at the end of this section)

Our hospital is comprised of 3 main areas, including the small animal hospital (SAH), large animal hospital (LAH), and shared species diagnostic imaging & cancer treatment center (DICTC). All radiographic suites are equipped with VetRocket Direct Digital Radiography units and connect to a PACS. In the SAH, there are 2 standard radiographic rooms used for routine radiography and 1 special procedures room that houses a digital fluoroscopy system (GE OEC 9800). Ultrasound machines in routine clinical use include two Samsung RS80, one Siemens S2000, and multiple Phillips Lumify portable handheld units. Our standard high-end ultrasounds (Samsung & Siemens units) have color flow, spectral, and power Doppler capabilities, while the portable Lumify has color flow. In our on-site DICTC, there is a 40-slice Computed Tomography unit (Siemens Somatom Definition AS) and 3T MRI unit (Siemens Verio). These machines and the facility are used for the scanning of both small and large animal patients. In the LAH, there are 3 rooms for standard radiographic imaging which employ the use of Eklin Direct Digital systems. Our on-site nuclear medicine facility provides service for both large and small animal patients (Ultrascan IS2 large animal system with Mirage software; this is on deck to be updated in 2022). This unit, along with all other modalities, is connected to the PACS. In 2021, we moved to Mach7 PACS with a web-based clinical image viewer (EUnity). In addition to clinical spaces described above, residents may also have training and research opportunities at the Texas A&M Institute for Preclinical Studies (TIPS) with equipment including 128-slice CT and PET/CT Time-of-Flight with respiratory and cardiac gating (<https://tips.tamu.edu/>).

Please describe how residents will gain experience in image acquisition and protocol set-up for each of these modalities (excluding nuclear medicine).

During the first 2 months of the program, residents are trained in DR, CT, and MR acquisition to a level of competency for running after hours imaging studies. Residents are periodically assigned to "image acquisition days" for additional CT/MR training with our technical staff, which amounts to an additional 3-6 days of training per year for the remainder of the program. (See DICTC Resident column in the sample schedule spreadsheet.) Diplomate-supervised training in ultrasound and fluoroscopy acquisition is ongoing throughout the program.

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Clinical Resources and Training Content

Review the clinical resource and training content requirements listed in the RPE document

What is the average annual caseload at the primary institution over the past 3 years? This number will include all patient visits whether or not they contribute to the annual imaging caseload. 28389

What is the average annual imaging caseload at the primary institution over the past 3 years? Each body region imaged for a given patient (e.g. thorax, abdomen, spine, etc) will count as a single study.

16720

What is the average annual imaging caseload at the primary institution over the past 3 years in the following categories?

Small animal radiology 8268

Large animal radiology 3357

Abdominal ultrasound 2131

Non-abdominal ultrasound 50

Computed tomography 2045

Magnetic Resonance Imaging 814

Nuclear scintigraphy 55

Indicate the approximate species breakdown of the imaging caseload at the primary institution in the following categories:

Small animals (canine, feline): 78%

Large animals (equine, bovine, porcine, etc.): 20%

Avian, Exotic, and Wildlife animals: 2%

Which of the following types of imaging cases will the resident(s) have direct, on-site exposure to at the primary institution during the residency program?

Echocardiography Yes

Large animal ultrasound Yes

Nonabdominal small animal ultrasound (i.e. cervical, musculoskeletal) Yes

Food/fiber animal imaging Yes

Exotics imaging Yes

Teleradiology/Referral imaging Yes

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What percentage of the total imaging caseload at the primary institution results in a written imaging report being generated by either the residents or the training radiologist diplomates in this program? 99

What percentage of the preliminary reports generated from the imaging caseload are initially produced by the resident(s) in this program? 98

Does this institution concurrently support the training of diagnostic imaging interns? No

What percentage of resident-generated reports are reviewed by training diplomates prior to finalization of the report? 99

What is the average turnaround time for resident-generated preliminary reports to be finalized by training diplomates?

24-36 hours

What percentage of all imaging reports (resident and diplomate generated) is finalized and available to requesting clinicians within 48 hours after the exam is submitted for radiologist consult? 98

Please describe how after-hours/weekend/holiday cases are handled at the primary institution. How does this affect resident-reported imaging caseload?

We have a resident and a senior faculty member designated on-call for after-hours, weekend, and holiday coverage for both the Small and Large Animal Hospitals. To minimize the number of times our residents and faculty are called over a given week, small animal attending clinicians are required to send after-hours radiographs to a teleradiology service OR wait until the next business day for a TAMU report. Our residents are not called to provide opinions on these cases unless the teleradiology service misses their promised STAT turnaround time or the clinician would like a second opinion on a teleradiology report. Advanced imaging (US, CT, MR, fluoroscopy etc) and large animal after-hours cases are never sent to teleradiology and TAMU residents/faculty are available for consults (and reporting) as needed. TAMU residents are never on call without senior faculty backup. The resident-reported imaging caseload at Texas A&M is reduced by ~275 small animal radiograph cases per year, which is negligible in terms of reporting minimums as required by RSEC.

For each category below, calculate the approximate number of cases that a single resident will interpret at the primary institution with radiologist feedback during the course of the entire residency program. These numbers should be calculated using the annual imaging caseload adjusted to include only those with written reports generated by the residents. In general, this number should then be divided by the total number of residents in a program during a given year.

If external rotations for the resident(s) are employed to increase the resident caseload in any given category, please be sure to upload affiliate agreements that include the expected number of reports

that residents can expect to generate (with radiologist feedback) for cases in those categories.

Small animal radiology 4961

Large animal radiology 2014

Abdominal ultrasound 1279

Non-abdominal ultrasound 30

Computed tomography 1227

Magnetic resonance Imaging 488

Nuclear scintigraphy 32

How many ultrasound exams will a single resident perform with radiologist supervision and feedback during the course of the entire program? Scans for which the resident writes a report but does not acquire images are excluded. 1300

Do residents in this program have ample hands-on training and practice opportunities to become proficient in the performance of ultrasound guided fine needle aspirates and biopsies?

Yes

Please indicate whether this training program includes formal courses in any of the following topics:

Physics of Diagnostic Imaging

No

Radiobiology

No

Nuclear Medicine

No

Ultrasonography

No

Computed Tomography

No

Magnetic Resonance Imaging

No

Other

No

Briefly describe the formal courses that are available for the resident(s) in this program by indicating the institution, course title, course number, and credit hours as well as any other relevant information. For any topics for which formal course work is not provided for the

resident(s), please explain how educational objectives in these topics will be met.

No formal didactic training will be required. Instead, our program has 6 routinely scheduled mock exams that, in total, have a scope covering the entirety of ACVR examination objectives. Residents are provided an exam schedule and time off clinics for directed study. The program has an extensive network drive filled with study resources. Residents are also encouraged to participate in ITEC mock exams as they are developed.

Do residents have access to a majority of the written pathology reports that are generated from patients included in this imaging caseload?

Yes

Will the resident(s) in this program attain an advanced degree (MS, PhD) at the conclusion of the program?

No

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Research Environment

Review the Research Requirements listed in the RPE document.

Over the last five years, what is the average number of peer reviewed publications on which the training diplomates (Supervising and Supporting diplomates) of this program are included as authors? (total number of publications in last 5 years among all training diplomates divided by the number of training diplomates) 5

How many peer-reviewed publications are expected of a resident completing the program? 1

If this is an established program, what percentage of residents have made formal research presentations at the annual ACVR or equivalent national meeting? 77.8

Briefly describe if/how residents are encouraged to engage in investigative work and what mechanisms are in place for training diplomates to support this work.

The resident is expected to write a research proposal which will be evaluated by a committee of at least three faculty members (one member must be a radiologist). The committee should be selected by December of the first year and the proposal should be submitted to the committee by February of the first year. The research should be completed during the second year and a manuscript should be written and submitted to a refereed publication by the end of the third year. If the timing works out, residents are strongly encouraged to present their research at a national meeting. (Seven of 9 most recent TAMU residents presented abstracts at ACVR Conference.) Residents are assigned a faculty

radiologist to mentor the resident through the project (and serve as co-author). Resident research is also supported via departmental resident research grant opportunities and a productive group of clinical and non-clinical faculty with an array of career interests.

Educational Environment

Review the Educational Environment expectations listed in the RPE document.

Please list and enumerate the formal presentations that are expected of each resident during the course of their training. In general, didactic lectures, departmental seminars, scientific presentations, Continuing Education presentations, and similar are considered "formal". Informal topic rounds, journal club, small group teaching (like student rounds), student labs, and similar events should not be included.

3 scientific research departmental seminars are required; additional presentations are listed below.

Briefly describe the type and extent of teaching opportunities that are provided to the resident throughout the training program.

at least 1 pre-clinical lab per semester (2 per year)
+/- 1 pre-clinical didactic lecture per year
intermittent leadership in 4VM clinical student rounds (2 per year per resident)
small animal clinical house officer radiology rounds (2-3 per year per resident)
diagnostic imaging topic rounds (1-2 assigned topics per year)

Briefly describe the nature and scope of the teaching file available to the resident(s) in this program and how it is maintained/updated.

Board preparation materials are filed electronically in a network drive available for access via home or work computers. We have a robust medical sciences library system with excellent librarians who are keen on training in file organizational tools such as EndNote, etc. Our medical records system is fully searchable by master problem list, imaging modality, species, admission service, and radiologist (among a host of other things). Residents keep a shared, network-drive accessible spreadsheet with case numbers, modality type, and diagnoses. Faculty maintain personal image databases to use in resident, clinical student, and pre-clinical student teaching. Cases are added to each of these teaching lists periodically. Images from our PACS can be downloaded and saved as DICOM or JPG files as desired by anyone with access.

How many Known Case Conferences are conducted annually? 20

Describe the nature and frequency of resident rounds ("other educational events") planned for this program. You may upload an example schedule with the general program schedule that is requested at the end of this application.

Journal club - weekly

KCC - every 2 weeks

Large Animal Advanced Imaging - every 2 weeks; interdisciplinary rounds w/ large animal surgery and sports med/rehab services +/- internal medicine

Neuroimaging - monthly, interdisciplinary rounds w/ neurology service

"Follow Up Friday" - monthly radiology/pathology correlation rounds

Board Objective Rounds - monthly; hosted by senior residents with quiz-style geared towards second year residents in prep for preliminary exams

"Ultrasound Merry Go Round" - monthly focused, hands-on skill building for specific small and large animal topics (e.g. July - peripheral lymph nodes; Aug - Thyroid/Parathyroid; Sept - Hepatic Portal Flow; Oct - Cranial Mediastinum; Nov - Renal Resistive Index; Dec - Uterovesicular junction; Jan - shoulder; Feb - SA ocular; Mar - SA calcaneal tendon; Apr - echocardiography, etc)

Special topic rounds - quarterly, resident presented (e.g. MRI Appearance of Suspensory Ligament Injury; MRI Appearance of Bone Injury, etc).

Describe how the resident(s) in this program will attain direct and consistent medical library access and/or how they will access research tools and medical literature including the suggested references listed in the ACVR Preliminary Examination study guide.

Texas A&M has a robust library system that includes a wide array of electronic textbook resources in addition to medical periodical literature that covers the extent of the references suggested by the ACVR Exam Committee. We have excellent remote and on-site librarian services for literature review, periodical retrieval, intercampus mail/delivery, and extra-campus borrowing, etc. The medical library is physically located directly across the street from our hospital and is connected by an underground tunnel hallway. All campus libraries are also accessible with searchable electronic databases. The diagnostic imaging team also has a library of hard cover books that may not be available electronically through the library.

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Evaluation and Protection of Residents

For existing programs, list the names, email contact information, and start/end dates of your current residents.

Candace Tam (ctam@cvm.tamu.edu), Start: July 15, 2021; End: July 14, 2024
Brianna Gonzalez (bgonzalez@cvm.tamu.edu), Start: July 15, 2020; End: July 14, 2023
Kristin Repyak (krepyak@cvm.tamu.edu), Start: July 15, 2020; End: July 14, 2023
Zachary Bassett (ztbassett@cvm.tamu.edu), Start: July 15, 2019; End: July 14, 2022
Gwendolyn Levine (gjlevine@cvm.tamu.edu), Start: July 15, 2018; End: July 14, 2022 – Alternative Track Resident

Did all of your current residents adequately complete the last 6 months of training?

Yes

List the current members of the resident review committee.

Lindsey Gilmour, DVM, DACVR-DI, DACVR-EDI
Christine Gremillion, DVM, DACVR-DI, DACVR-EDI
Andra Voges, DVM, DACVR-DI
Lauren Russell, DVM, DACVR-DI, DACVR-EDI
Jay Griffin, DVM, DACVR-DI, DACVR-EDI

Describe the internal mechanisms in place at your institution to protect the resident(s) if personal or organizational conflicts arise. Include the management hierarchy for residents and procedures by which residents would report workplace misconduct.

Residents are invited to share grievances at any time (especially as they arise) with the Residency Program Director or Department Head. The residents are also provided an opportunity for formal program evaluation once per year. The Residency Director serves as a direct clinical supervisor, with the Department Head followed by the Dean serving next-level supervisors. If residents need to report workplace misconduct, they would be encouraged to talk to the residency director, any of the attending faculty, the hospital administration, and/or make use of campus resources through established means as outlined by our campus: <https://employees.tamu.edu/employee-relations/report.html>

The university has robust resources aimed at assisting employees in the following areas: mental health counseling services, alcohol and drug abuse, crisis intervention, and workplace violence prevention. In addition, there are University-mandated online training modules that inform residents to whom they should report instances of inappropriate behavior or discrimination. More information can be found at: <https://employees.tamu.edu/resources/index.html>

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Appendix

Please provide the following information regarding preliminary and certifying board exam pass rates for residents in your program over the past five years.

Preliminary Board Exam Pass Rate

2020

Number Of Prelim Board Eligible Residents: 1

Number of Residents That Took Prelim Exam: 1

Number of Residents That Passed On 1st Attempt:
1

Number of Residents That Passed After Multiple Attempts: 0

Number of Residents That Have Not Passed: 0

2019

Number Of Prelim Board Eligible Residents: 2

Number of Residents That Took Prelim Exam: 2

Number of Residents That Passed On 1st Attempt:
2

Number of Residents That Passed After Multiple Attempts: 0

Number of Residents That Have Not Passed: 0

2018

Number Of Prelim Board Eligible Residents: 1

Number of Residents That Took Prelim Exam: 1

Number of Residents That Passed On 1st Attempt:
1

Number of Residents That Passed After Multiple
Attempts: 0

Number of Residents That Have Not Passed: 0

2017

Number Of Prelim Board Eligible Residents: 3

Number of Residents That Took Prelim Exam: 3

Number of Residents That Passed On 1st Attempt:
2

Number of Residents That Passed After Multiple
Attempts: 1

Number of Residents That Have Not Passed: 0

2016

Number Of Prelim Board Eligible Residents: 2

Number of Residents That Took Prelim Exam: 2

Number of Residents That Passed On 1st Attempt:
1

Number of Residents That Passed After Multiple
Attempts: 1

Number of Residents That Have Not Passed: 0

Certifying Board Exam Pass Rate

2020

Number of Certifying Board Eligible Residents: 2

Number of Residents That Took Certifying Exam: 2

Number of Residents That Passed On 1st Attempt:
2

Number of Residents That Passed After Multiple
Attempts: 0

Number of Residents That Have Not Passed: 0

2019

Number of Certifying Board Eligible Residents: 2

Number of Residents That Took Certifying Exam: 2

Number of Residents That Passed On 1st Attempt:
1

Number of Residents That Passed After Multiple
Attempts: 1

Number of Residents That Have Not Passed: 0

2018

Number of Certifying Board Eligible Residents: 3

Number of Residents That Took Certifying Exam: 2

Number of Residents That Passed On 1st Attempt:
1

Number of Residents That Passed After Multiple
Attempts: 2

Number of Residents That Have Not Passed: 0

2017

Number of Certifying Board Eligible Residents: 1

Number of Residents That Took Certifying Exam: 1

Number of Residents That Passed On 1st Attempt:
1

Number of Residents That Passed After Multiple
Attempts: 0

Number of Residents That Have Not Passed: 0

2016

Number of Certifying Board Eligible Residents: 0

Number of Residents That Took Certifying Exam: 0

Number of Residents That Passed On 1st Attempt:
0

Number of Residents That Passed After Multiple
Attempts: 0

Number of Residents That Have Not Passed: 0

Program Schedule

Upload a schedule for your residents that outlines their clinical and non-clinical work over the course of the residency program. This may be a master schedule or duty roster for your entire radiology section, if desired. If available, an example weekly or monthly rounds schedule can also be included.

Program Schedule



FY 2021 Schedule EXAMPLE.pdf

Affiliation Agreements

Upload digital copies of any affiliation agreements that have not been included elsewhere in this document. Refer to the RPE document for an explanation of what information should be included in such agreements.



Combined CVs.pdf